



January 26, 2004

**Via Electronic Filing**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

**Re: WT Docket No. 02-381:** *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services;*  
**WT Docket No. 01-14:** *2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services;*  
**WT Docket No. 03-202:** *Increasing Flexibility To Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and To Facilitate Capital Formation*

Dear Ms. Dortch:

XM Radio Inc. ("XM Radio"), one of the two Satellite Digital Audio Radio Service ("SDARS") providers in the United States, hereby files this letter to emphasize that there is no basis in the record of this proceeding to authorize an increase in the power of 2.3 GHz Wireless Communications Services ("WCS") facilities that will operate in rural areas.

XM Radio provides SDARS in the 2332.5-2345 MHz band. The other SDARS provider, Sirius Satellite Radio Inc. ("Sirius"), provides SDARS in the 2320-2332.5 MHz band. Reception of SDARS depends on the transmission of a signal from a satellite to a very small antenna. While XM Radio's satellites are state-of-the-art and among the most powerful communications satellites ever manufactured, the downlink signal power available to the receiver is much lower than terrestrial-based communications systems, thereby requiring very sensitive SDARS receivers.<sup>1</sup> In addition, because SDARS receivers operate predominantly in a mobile environment, they use omnidirectional antennas that eliminate the ability to "point" an antenna away from a source of interference.

2.3 GHz WCS licensees are authorized to provide terrestrial fixed and mobile services on frequencies immediately adjacent to either side of the SDARS frequency band (2305-2315 MHz

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<sup>1</sup> XM Radio provides service to its subscribers directly through its licensed SDARS satellites in over 99% of its coverage area. Terrestrial repeaters are used only to provide service in urban areas and elsewhere where it may be difficult to receive satellite-based signals due to line-of-sight blockage from foliage, buildings, and other obstacles.

and 2345-2360 MHz). 47 C.F.R. § 27.5(a). In 1997, the Commission established technical rules for WCS facilities.<sup>2</sup> In adopting these rules, the Commission sought to ensure that the SDARS licensees operating in the adjacent frequency band would not be subjected to harmful interference. In doing so, the Commission noted that:

the 2320-2345 MHz frequency band is the only spectrum specifically available for provision of Satellite DARS in the United States. Accordingly, if Satellite DARS in this spectrum is subject to excessive interference, the service will not be successful and the American public will not benefit from the service. *WCS MO&O* at ¶ 27.

In the above-captioned proceeding, the Commission is considering whether it is “beneficial, feasible, and advisable” to allow for an increase in the power of terrestrial wireless services when operating in rural areas.<sup>3</sup> Among the services the Commission proposes for an increase in power in rural areas are those services licensed under Part 27, which includes 2.3 GHz WCS. *NPRM* at ¶ 56.

Comments were filed in this proceeding on December 29, 2003. One commenter supported the proposal to authorize an increase in the power of licensed services in rural areas.<sup>4</sup> Others urged the Commission to proceed with caution before authorizing any increase in power in rural areas in order to avoid causing harmful interference to other spectrum users.<sup>5</sup> No commenter addressed whether the Commission should authorize an increase in the power of 2.3 GHz WCS facilities in rural areas, let alone demonstrated that power limits could be increased without causing harmful interference to SDARS receivers.

With this letter, XM Radio emphasizes that there is no basis in the record of this proceeding for the Commission to authorize an increase in the power of 2.3 GHz WCS facilities that will operate in rural areas. First, no 2.3 GHz WCS licensee is on record advocating such an increase in power. Second, no entity has made a showing that authorizing an increase in the power of 2.3 GHz WCS facilities in rural areas will not cause harmful interference to SDARS receivers. SDARS providers do not operate terrestrial repeaters in rural areas and thus rely solely on satellite

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<sup>2</sup> *Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (“WCS”), Memorandum Opinion and Order*, 12 FCC Rcd 3977, ¶ 25 (1997) (“*WCS MO&O*”).

<sup>3</sup> *Notice of Proposed Rulemaking*, WT Docket No. 02-381, WT Docket No. 01-14, WT Docket No. 03-202 (October 6, 2003) (“*NPRM*”), at ¶ 56.

<sup>4</sup> See Comments of Rural Cellular Association, WT Docket No. 02-381, WT Docket No. 01-14, WT Docket No. 03-202 (December 29, 2003), at 9-10.

<sup>5</sup> See Comments of Cellular Telecommunications & Internet Association, WT Docket No. 02-381, WT Docket No. 01-14, WT Docket No. 03-202 (December 29, 2003), at 9-10; Comments of Nextel Partners, Inc., WT Docket No. 02-381, WT Docket No. 01-14, WT Docket No. 03-202 (December 29, 2003), at 19.

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signals to provide service in these areas. SDARS receivers are therefore most vulnerable to interference when located in rural areas. Before the Commission can authorize an increase in the power of 2.3 GHz WCS facilities in rural areas, it must receive meaningful comment from interested parties as to the impact this will have on the interference environment for other Commission licensees. To date, the record of this proceeding is devoid of any such technical input insofar as increasing the power of 2.3 GHz WCS facilities in rural areas is concerned.

For these reasons, XM Radio urges the Commission to refrain from taking any action in this rulemaking to increase the power limits on 2.3 GHz WCS facilities in rural areas.

Very truly yours,

Lon C. Levin  
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